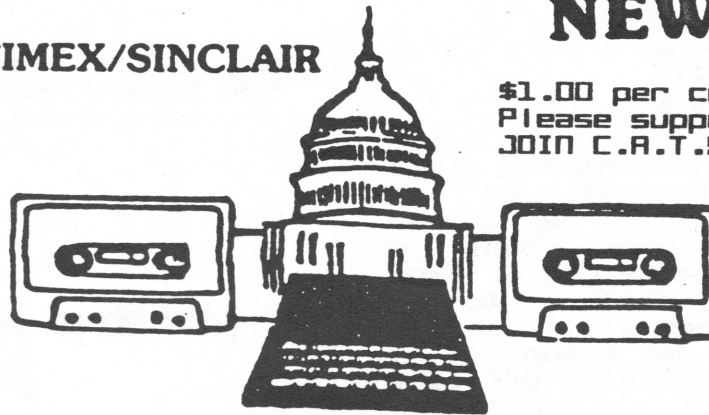


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Volume 5, Number 8

December, 1987

HOLIDAY GREETINGS FROM CATS

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Hank Dickson
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PRESIDENTIAL RAMBLINGS

Come one, come all! We will be having a gift swap at this meeting, so don't forget to bring a gift to throw in the pot!

A SHARP COMPUTER!

Mark Stueber of Sharp's will be present at this meeting to demonstrate his prowess with the new Z-88 Laptop computer. He also plans to bring some other peripheral paraphernalia.

The Dollar Takes a Dive!

The cost of British goods of all types is going up! It is expected that the Pound will go to \$1.97 next year. Unfortunately, it is going in that direction now. Expect the cost of software and hardware to go up in price soon. In the last year the pound has gone from \$1.42 to \$1.83. Don't wait any longer if you have been putting off getting something because the exchange rate has not been favourable.

A Z-88 Sneak Preview

Well, I got (an early) one, and opened it up. Lo and behold, it is a CMOS ZX 81! It has a (128K) ROM, a (32K) RAM, a Z80(C) CPU and a Custom Chip! It has a refined (very good menu driven) operating system, serial and full CPU expansion ports and 3 memory and storage expansion slots. The quiet keyboard has a grid, rather than the more delicate bubble, membrane and the computer is about the size of a flat notebook. Come see the machine's software in use at this month's meeting.

More Machine Mods

We will have more resistors and varistors at the hardware session, so once again, bring your unmodified QL power supplies for upgrading.

Tom Bent

FROM THE EDITOR

I took a walk down memory lane this week as I catalogued the newsletter files. I was amazed at the number of user groups in 1984 and 1985, the height of Sinclair popularity, that no longer exist. That we are still an active (and growing) group is a tribute to the dedicated officers and members that wouldn't give up. Now the QL is here and it ought to keep up the level of enthusiasm. But for how long? I don't know; however, if it is up to me, it will be a long time. As the newsletter editor I am committed to exploring the use of the Sinclair family of computers to the fullest. The newsletter itself is an example, since it is composed on Digital Precision's Desktop Publisher. Inside this issue we have the first of what I hope will be a series of articles on using a plotter with the QL, written by Peter van Dijk. Mark Fisher checks in with another installment in his Archive series, this time a practical use of that very powerful program. We've finally heard from John Riley, our previous newsletter editor, now located deep in Dixie. John's ON/OFF switch hardware project is one I'm sure many of us have contemplated.

This year the group has seen a steady migration to the QL. With at least 50 QLs in use (Hank Dickson take note!), there should now be a lot more QL articles. If you haven't contributed before, why don't you? The first article is always the hardest to write. The rest are easy. Ask any of the regulars. Don't worry about the spelling and/or grammar. Just send it in and I'll take care of the rest.

Don't forget your "Sinclair" Christmas gift for the December meeting. Besides the gift exchange we will get to see the latest product from Uncle Clive's workshops, the Z-88 laptop. Also, look in the "Product Info" binder for a brochure on Amstrad's entry into the laptop sweepstakes.

Finally, on behalf of the Exec-

utive Committee, I'd like to wish you a very merry Christmas and a prosperous and happy New Year.



Cutoff date for January newsletter articles
December 26

See our new Advertising Section

DECEMBER MEETING SCHEDULE

11:00 Hardware Workshop
Hands on Tutorial:
Word Processing on the TS 2068
1:00 Video: November Archive
presentation by Mark Fisher
2:00 General Meeting
Christmas Swap
4:45 Adjourn
Demonstration: Mark Stevber,
Sharp's Inc.
Cambridge Computer's new Z88

NEWSLETTER SUBMISSIONS

Submissions for the newsletter can be in hard copy, with columns 35 characters wide, or, preferably, magnetic media. For the QL, microdrive cartridge, 5 1/4" DS/DD or Quad density disks, or 3 1/2" disks. For the ZX81, TS1000, or 2068, cassettes only, with titles on the box.

Send material to:
Editor, CATS Newsletter
Box 467
Fairfax Station, VA 22039

POTPOURRI

News Around the Beltway

Announcing the Second Annual Uncle Clive Sinclair Holiday Gift Exchange

To participate, simply bring a trinket which you think might be useful to a computer hobbyist like yourself, but which you no longer need.

Disguise it with your own brand of holiday wrapping.

Then place it secretly under the Clive Sinclair Memorial Evergreen Tree.

Everyone bringing a gift will get to select a gift.

Favorite items at last year's Holiday Gift Exchange included Sinclair software, books on Sinclair hardware and software, manuals, kits, tools, and computer supplies.

Let your imagination run free!!

SPECTRUM Info

The following information comes from the SincBits column by Ian Robertson in the Sept/Oct 1987 issue of Sinc-Link

Amstrad has finally released the Spectrum 128+3, with the price being much higher than anticipated, approx. £200. This is the one with the 3 inch drive built in. Guess what? It's NOT COMPATIBLE with almost every peripheral on the market. The rear expansion port has a different pin out and the ROM does not allow paging (there goes IF1 and the microdrives). Also the joystick ports are the "new and improved Amstrad design-not Kempston or Sinclair (IF2).

DISCIPLE has come out with version 3 of their disk interface for the Spectrum line (48k and 128k). Looks very interesting.

WILL THE NATION'S CAPITAL HOST A 1989 EAST COAST COMPUTERFEST?

AT THE NOVEMBER EXECUTIVE BOARD MEETING IT WAS DECIDDED TO FORM AN EXPLORATORY COMMITTEE TO DETERMINE THE LEVEL OF INTEREST AMONG CATS MEMBERS FOR HOSTING A TIMEX/SINCLAIR COMPUTERFEST DURING THE SECOND WEEKEND OF MAY (13-14) IN 1989. COMMITTEE CHAIRMAN IS HANK DICKSON AND HE SHOULD BE CONTACTING MEMBERS IN THE NEAR FUTURE. STAY TUNED!

The New Tax Law and You Important Change

Herb Bowers, a new member from the Tidewater area and author of the 2068 program, "The New Tax Law and You", sent this change.

```
3 REM LONG TERM CAP GAIN FIX
In calendar year 1987 treatment
of long term gains, as we knew
it in the past is gone forever
and long term capital gains will
be taxed as ordinary income. But
for 1987 long term capital gains
are limited to a 28% tax rate.
Add the lines below to "The New
Tax Law and You" and this adjust-
ment will be made by your 2068.
You can either type them into
your back-up tape then resave
the program or type them separat-
ely and SAVE and MERGE.
```

Herb

```
1300 LET cgc=0: IF tfree THEN LE
T lfg=tfree/8*10: GO SUB 1360
```

```
1335 IF cgc THEN GO SUB 1390
```

```
1360 LET mxta=(45000*(fs=1))+(38
000*(fs=2 OR fs=5))+(27000*(fs=3
))+(36000*(fs=4)): IF mxta>ta7
THEN RETURN
```

```
1370 LET cgc=1: LET eta=ta7-mxta
: IF lfg<eta THEN LET ta7=ta7-l
fg: LET atx=lfg*.28: RETURN
```

```
1380 LET ta7=ta7-eta: LET atx=et
a*.28: RETURN
```

```
1390 LET tax7=tax7+atx: RETURN
```

```
9020 LET tfree=0
```

cats 3 december

QL on the QT

by Vernon Smith

As the cold weather sets in, it curtails outside activities (lawn mowing, etc.) and gives me more computer time. I really needed it this month so that I could look over the programs in the QUANTA library. Wow! At present there are 15 quad density disks. I spent an hour reviewing the Library Guide (a separate disk) and picking out the programs I thought I might like. Now if I can just figure how to integrate these library programs with mine. ..

I did receive two new programs, Speedscreen and Pointer's Toolkit /Writer's Toolkit. The first, as you might expect, makes the display much faster. While I can't verify if it is as fast as they claim (up to 12 times), it appears to be at least twice as fast for one of my multipage Quill documents. The second program is really two. The Pointer's Toolkit is designed to compliment QRAM and the Sandy SuperQ board with mouse--You remember the Sandy board, don't you? Now, if I can get my repaired board back from Strong Computers, I'll be able to see how everything plays. The Writer's Toolkit has numerous fonts in various sizes that you can print on the screen. So if you are tired of the same old screen printing in your programs, latch on to this and jazz up your screens. It appears that you can get these fonts to print out on a printer, via the QWriter program from Ultrasoft. Probably similar to Inkwell. I'm trying to obtain a copy to see if that is true. I'll let you know how this turns out.

I made a major hardware acquisition with the purchase of a NEC Pinwriter P2200. So what you say? Well, this is a 24 pin printer with more features than the NEC P6 and is priced about \$150 LESS. Its got 360X360 dpi resolution, 170 cps in draft mode, 56 cps in LETTER QUALITY Pica mode, and 60 cps in the proportional mode. One unique feature is its capability of front feeding, besides 2 types of rear feeds. It has 6

built-in fonts and the capability of accepting more via a plug in module. If you are interested, you should get a copy of an ad from Business Micro which gives their selling price as \$325. Take this to Printers Plus and tell them to match that price. Why go to all this trouble? First, PP is the most knowledgeable outfit in the Metro area when it comes to printers. Second, they accept plastic and Business Micro doesn't.

Did you catch Amstrad's latest venture? They started advertising in the Wall Street Journal on October 21 about a new product to be introduced at the COMDEX on November 2. It was unnamed but had teasers such as "a product that will offer a new, and most remarkable, feature--one that will be of particular interest to American businessmen" and "we can say that it will allow American executives to do something existing products have not allowed them to do before". This remarkable product was an 11 pound laptop computer! No kidding. Unique? Introduced during the "Year of the Laptop". Furthermore it won't be ready for a while. Sound familiar? Shades of the QL. Since November 2, nothing! No more ads. I'm still holding my breath that there might be a QL reintroduction, in some form, at the Spring COMDEX. However, when you look at the hype for their "soon-to-be-available" laptop, you almost feel that they wouldn't recognize a truly innovative machine even if it came with a 50 foot neon sign. While I don't usually make dire predictions, I feel I am on safe ground in saying that, as far as Amstrad is concerned, the QL is dead. I wish I were wrong and the best gift I could get would be to be proven wrong. So our work's cut out for us to support the QL in any way possible!

And with that, Merry Christmas. See you next year.

What was the best QL and 2068 program released in 1987?
Send your nominations to the newsletter today

the PLOTTER: Tips and programs for the plotter user

by Peter van Dijk

This program, PLOT1, is a simple example how to drive the EPSON HI-80 plotter from SUPERBASIC. The procedures in lines 570 to 600 are used to send the proper plot-commands to the serial port. In this way the procedure name with its parameters closely resembles the Epson syntax. For other plotter languages a similar approach can be used.

EXAMPLE

The Epson command for drawing a line "DA 100,100" draws a line to a point with coordinates 100,100. To send this command to the plotter "X=100:Y=100:PRINT#3,'MA':x:',',Y" can be used. The command "DA X,Y" with the procedure in line 590 does exactly this. To see this process in action change line 310 to access the serial port to a printer and all plotter commands will be printed.

EXPLANATION OF THE PROGRAM

The program is a REPEAT loop in line 140, and draws lines simultaneously on plotter and screen.

INIT sets the scale of the screen to match the plotter area, it opens the serial port to the plotter and initialises some variables.

The variable ST sets the 'cursor speed' and can be modified to suit applications.

MARK shows the drawing mode, DRAW or SKIP.

TARGET draws the 'cursor'.

END_PRG closes the serial port and clears the windows.

MOVE_CURSOR is the main procedure. The KEYROW function is used to read the keyboard or joystick port. (See page 30 of the KEYWORDS section in the Sinclair User Guide) Because of the speed of the KEYROW function, the keys must be tapped quickly, to avoid double entries. The arrow keys work in the usual way to give cursor movements.

The <ENTER> key toggles DRAW/SKIP with the variable FLAG.

<SPACE> initiates the procedure PLOT.

<ESC> ends the program.

PLOT marks the coordinates of the beginning of a line and draws the line when in DRAW mode.

HO,MA,DA, and CH are the plotter driver procedures.

Plotter commands are in lines 210, 460, 550, 570, 580, 590 and 600.

```
100 REMark THIS PROGRAM DRAWS LINES ON A PLOTTER, USING JOYSTICK OR ARROW-KEYS
105 REMark THE PLOTTER IS THE EPSON HI-80
110 REMark THE LINES ARE DRAWN SIMULTANEOUSLY ON THE SCREEN
120 REMark BY:PETER VAN DIJK, NOV . 1987
130 INIT
140 REPEAT PROGRAM:MOVE_CURSOR:END REPEAT PROGRAM
150 REMark *****
160 DEFINE PROCEDURE INIT
170 WINDOW 512,256,0,0:OVER -1:PA
PER 0:INK 7:INK#0,3:CLS
180 REMark SET AREA AND SCALE TO MATCH AVAILABLE PLOTTER AREA
190 SCALE 2050,-100,-100
200 LINE 95,95 TO 95,1915 TO 2510,1915 TO 2510,95 TO 95,95
210 C=3:OPEN#C,SER2:HO:REMARK INITIALISE PLOTTER
220 FLAG=0:OLDX=100:OLDY=100:NEWX=100:NEWY=100:ST=20:REMARK ST=CURSOR STEP
230 MARK:TARGET
240 END DEFINE INIT
250 DEFINE PROCEDURE MOVE_CURSOR
260 x=0:y=0
270 KEY=KEYROW(1)
280 SELECT ON KEY
290 =2:x=-ST:REMARK LEFT
300 =16:x=ST:REMARK RIGHT
310 =4:y=ST:REMARK UP
320 =128:y=-ST:REMARK DOWN
330 =64:PLOT:REMARK <SPACE> FIX BEGINNING/END OF LINE
340 =1:FLAG=(FLAG=0):MARK:REMARK <ENTER> SET DRAW/SKIP MODE
350 =8:END_PRG:REMARK <ESC> STOP PROGRAM
360 =REMAINDER
370 END SELECT
380 IF x+y=0:RETURN:END IF
390 TARGET:NEWX=NEWX+x:NEWY=NEWY+y:TARGET
400 END DEFINE MOVE_CURSOR
410 DEFINE PROCEDURE TARGET:POINT NEWX,NEWY:END DEFINE
420 DEFINE PROCEDURE PLOT
430 BEEP 1500,50
440 IF FLAG
450 LINE OLDX,OLDY TO NEWX,NEWY
460 MA OLDX,OLDY:DA NEWX,NEWY
470 END IF
480 OLDX=NEWX:OLDY=NEWY:TARGET
490 END DEFINE PLOT
500 DEFINE PROCEDURE MARK
510 BEEP 3000,150:AT#0,4,1520 IF FLAG:PRINT#0,'DRAW':ELSE:PRINT#0,'SKIP':END IF
```

Continued on page 9

Using Archive

A Home Database - "Tel"

by Mark Fisher

Archive represents a complex and capable program to manage, select, and present data. As it comes out of the box, however, it presents a forbidding facade. The difference between "stock" Archive and a smoothly running application lies in the applications programs you write.

TEL is one such program. In this first installment, I'll describe the central elements of the program. I won't cover these elements in the order you would see if you LISTed the program - rather, I'll cover them in what seems to me to be a logical order. If you've never used Archive, you'll need to supplement my discussion with the manual or one of the several reference books on Archive (such as the highly recommended Ian Murray's QL Archive-Blueprint, reviewed in the July '87 newsletter).

On to the Data!

First of all, a database needs at least one file. The word "file" refers to the structure that holds all the records on one subject. If a file doesn't exist, it can be started by using the CREATE command. To make editing easier, I'll put that CREATE command in our first procedure.

Load Archive: the first screen you will see is the main screen. It has menu entries at the top, a large blank screen (where your data will appear) in the center, and a line across the bottom. There will be a cursor just under that line - this is the command line. This is where you will tell Archive what you want done - either by using one of the built in command words, or by typing the name of a procedure that you've programmed yourself. Type "edit". You will see a new screen, with a vertical line on the left, and the word "proc" at the top of the right-hand window. Type the following:

```
proc makephon
  rem records file structure of phones_dbf
  rem not invoked in normal running of program
  create "phones"
  hon$
  fname$
  lname$
  street$
  cty$
  st$
  zip$
  hphone$
  ophone$
  flag$
  endcreate
endproc
```

This procedure specifies the fields the data will be stored in. Fields can be either alpha (with a \$

suffix) or numeric (with no suffix). Think about this list carefully; while it is possible to add a field later, it's a major job. While you are typing the procedure, you can change things as much as you want - but after you press ESC to return to the command line and type "makephon", the number, name, and order of the fields will be fixed.

Now that a file has been created, we'll need to insure its integrity - by using the CLOSE command. In the future, you may be using more than one file at a time (partly as a way to get around the inflexibility of the CREATE command). In those cases, you'll want to make sure that ALL the files are closed. Why write a proc to do this? Well, CLOSE only operates on the most recently used file - if there are more than one OPEN, the others will be left flapping in the breeze.

```
proc closeall
  while 1
    close
  endwhile
endproc
```

WHILE is a loop initiator, similar to FOR, but with an indefinite number of repetitions. As long as the argument following WHILE is non-zero, the loop will be repeated. In this case, the loop will repeat indefinitely. Won't this hang the machine? No; the loop will terminate with an error code when all files have been closed.

You can now see your handiwork by using the DISPLAY command. This will show the field names and values of the current record in the current file. I got tired of the standard screen produced by DISPLAY, and used the SEDIT command to create a more legible layout, shown below. The "Press Key:" section at the bottom refers to the planned functions of the program - only a few of them will be implemented in this installment.

```
-----
***** PHONE LIST *****
Name (hon$)(fname$)..... (lname$).....
                                     (street$)..... (ophone$).....
                                     (cty$)..... (ophone$).....
                                     (st$) (zip$).....
Notes:(flag$).....
Currently sorted by:
Press Key: (F)irst (R)everse page (B)ack (N)ext (P)age (L)ast
           (O)rder (S)earch (A)lter (I)nsert (D)elete (H)ard copy
           (E)xit to com's (Q)uit (?) info
-----
```

Note that while records have no fixed length, the screen layout does. Make sure that you'll have enough space to enter the necessary data in each field, plus

one space for the cursor. Make sure that all your fields have been included. Once designed, it can be saved with SSAVE "phonscrn".

More procs!

The three procedures that follow are the core of "Tel". "Tel" will auto start if there is a proc called "start":

```
proc start
  cls
  print at 5,10;"Opening files....."
  error closeall
  open "phones" logical "p"
  let ord$="lname$"
  order lname$;a
  sload "phonscrn"
  comget:rem main subroutine
endproc
```

```
proc comget
  screen
  while 1
    sprint
    blank;14,33
    print at 11,21;ord$; tab 40;"Record number:
      ";recnum();" "
    let c$=upper(getkey())
    blank;14,33
    prompt;"Keypress="+c$
    comcheck: rem 'decoding' procedure
    blank;15,0
  endwhile
endproc
```

Commands and Functions

It's easy to confuse functions and commands. Basically, commands 'tell' the program to take some action, while functions generate or change a value. An example of a command is ERROR. While Archive normally reverts to the command line if a program statement generates an error, the ERROR command changes this flow, so that a generated error only causes a return from the procedure that followed the ERROR statement. In Archive, all functions are followed by perenthesis - for instance, "upper(getkey())" tells Archive to wait for a Keypress [getkey()] and then convert it to upper case [upper(xxx)].

```
proc comcheck
  if c$="A": error a:errchk: endif
  if c$="B":bk: endif
  if c$="D":dele: endif
  if c$="E":exit: endif
  if c$="F": first : endif
  if c$="H":lprnt: endif
  if c$="I":insrt: endif
  if c$="L": last : endif
  if c$="N":nxt: endif
  if c$="O":ordr: endif
```

```
if c$="P": error page: endif
if c$="Q":qt: endif
if c$="R": error rev: endif
if c$="S":srch: endif
if c$="?":info: endif
endproc
```

This is the main input-processing proc. It'll run all right without all the routines referred to; if you press one of the "unassigned" keys, you'll be returned to the command line - resume the program by typing "comget".

Here are some "utility" procs, used by the main procs:

```
proc blank;x,y
  print at x,y;rept(" ",80-y+1)
endproc
```

```
proc pause;time
  while time>0
    let time=time-1
  endwhile
endproc
```

```
proc prompt;msg$
  print at 14,40; paper 1;msg$;
endproc
```

```
proc errchk
  if errnum()>0 and errnum()<>27
    warning;"Error "+str(errnum(),3,0)
  endif
endproc
```

```
proc warning;msg$
  print at 15,0; paper 6; ink 2;" ";msg$;" "
  pause;40
endproc
```

To finish out this month's installment, here are the procs required to enable the Keypresses that allow insertion of a record and basic movement through a file:

```
proc filclr
  rem clears display for data entry
  let hon$="":let fname$=""
  let lname$="":let street$=""
  let city$="":let st$=""
  let zip$="":let hphone$=""
  let ophone$="":let flag$=""
endproc
```

```
proc insrt
  filclr
  sprint
  insert
endproc
```


Add an ON/OFF Switch to Your QL

a modest hardware project

by John Riley

I'll never understand what it is that Sir Clive has against the simple and convenient on/off switch. Neither the ZX81, the Spectrum, nor the QL were provided with them. Having to always be plugging and unplugging the power supply is not only bothersome, it quickly wears out the plug components! This started happening to my QL recently, and the wear on the power supply connector expressed itself in unpredictable crashes of the computer. I called Tom Bent, who prescribed cleaning the contacts with a spray from Radio Shack and mashing the Phillips connector with a pair of pliers to get rid of the looseness that had developed. It helped some, but the problem persisted. I don't know how it is with you, but losing a half an hour's work in an instant is a very frustrating experience for me!

I resolved to attack the source of my problem, the connector, and replace it with a switch. Trotting over to Radio Shack again, I bought a triple-pole, double-throw switch (part #T27500661) and a little 2 1/8 x 3 1/4 inch "experimenter's box" (part #T27000230)--total investment, \$5.23. With great satisfaction I cut the Phillips connector off of my power supply lead. The power supply was unplugged from the mains, of course! Some trimming of insulation revealed three color-coded wires, red, green, and blue. A little fooling around with a volt/ohm meter determined which wire went with which pin on the Phillips connector (see Fig 1 below). Next I drilled three holes in the experimenter's box, one on top for the switch, and one on each end for the wire to pass through. Wiring the switch

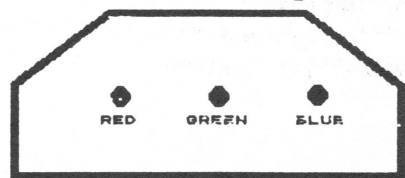


Fig. 1 - The Receptacle
on the back of the QL

was a straightforward proposition, even for me!

The next big decision that I had to make was how to wire the newly-switched power supply into the QL itself. Taking the cover off the computer, I quickly realized that it would require a major disassembly to get to the portion of the motherboard that the male Phillips receptacle was soldered into. Therefore, I decided to take the easy way out--I soldered my wires directly onto the pins of the Phillips receptacle! It was tight work, but do-able using a small-tipped soldering iron. Looking from the BACK of the QL, the wiring sequence is: blue wire to the right pin, green wire to the center pin, and red wire to the left pin. I put some small plastic tubing on the wires before I soldered them onto the pins, which when pushed up onto the finished connections provided protection and insulation for them.

Switching on the QL (what a novel experience!), I was rewarded with the familiar power-up display. And guess what--no more crashes! Of course, my power supply is now permanently wired to the keyboard, but that is OK for me since I never move it. The solder connections to the Phillips pins may prove unreliable in the long run, and if they do I will go through the bother of removing the voltage regulator and microdrive assemblies so that I can wire straight into the motherboard. Complete instructions for this disassembly can be found in Volume 1, Issue 1 of Quantum Levels.

Here are some trouble shooting tips if you decide to do this to your QL. Do a continuity check on your own beheaded Phillips plug to make sure that the color coding of your power supply wires is the same as mine. Be careful to avoid solder bridges when soldering the wires to the pins. Tinning the pins first makes the soldering easier. Check the Phillips receptacle for wobbling--if it does, "shim" it with some thin plastic between the top of the receptacle and the QL case to eliminate another potential cause for crashes. If when you power up

Continued on page 9

Using Archive-Continued from Page 7

```
proc bk
  if recnum()=0
    warning;"Start of file"
  endif
  back
endproc

proc nxt
  if eof()
    warning;"End of file"
  endif
  next
endproc

proc qt
  error closeall
  cls
  print "Type ""start"" to restart"
  stop
endproc
```

That's it for this month. Next month, I'll cover ways to 'automate' record correction, viewing, and sorting. For now, you'll have to use direct Archive commands for these functions.

MF

ON/OFF Switch-Continued from Page 8

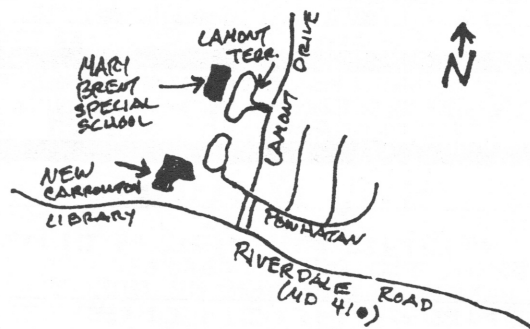
your computer you get a deep-throated buzz from the speaker instead of the first screen, turn off the computer immediately, because you have managed to reverse the red and blue wires. If you turn it on and nothing happens, then either the red or green wire or both is not making the proper connection. If you turn it on and the computer works but your printer doesn't, then the blue wire is not making a good connection. And don't forget, your switched power supply is only switched IN FRONT OF the transformer, so don't walk away from your machine and leave the transformer cooking 24 hours a day. Get a surge protected, switched power strip to plug your entire system into, and you won't have to worry about that problem.

That's it! I like having an on/off switch on my QL! I hope that you will, too.

Paucity of Parking Perplexing; CATS Asked to Help

During the winter months, parking is-to say the least-at a premium at the New Carrollton library. The library staff would appreciate the help of CATS members in finding, whenever possible, alternate parking to relieve weekend congestion.

MARK FISHER, former CATS president, says there is usually parking available on the streets near the library entrance: namely Lamont Drive and Powhatan Street. By parking there and walking down the sloping sidewalk in front of the library, entrance can be gained through the double doors on the ground level, just outside the meeting room.



Another alternative is the parking lot at the Mary Brent Special School. The entrance to the school is one-half block north of the library's driveway, at Lamont Terrace. It is possible to park on the school's property and end up just a couple of yards from the library's parking lot.

In using alternative parking, the long-term CATS attendees will be making the short-term visits of regular library customers much more comfortable during the coming months. This in turn will please the library staff a great deal.

chd

the Platter-Continued from Page 5

```
510 BEEP 3000,150:AT#0,4,1
520 IF FLAG:PRINT#0,'DRAW':ELSE:P
RINT#0,'SKIP':END IF
530 END DEFINE MARK
540 DEFINE PROCEDURE END_PRG
550 CH:CLOSE#C:WINDOW 512,202,0,0
:CLS:CLS#0:STOP
560 END DEFINE END_PRG
570 DEFINE PROCEDURE HO:PRINT#C,'
HO':END DEFINE
580 DEFINE PROCEDURE MA(x,y):PRIN
T#C,'MA':x:',':y:END DEFINE
590 DEFINE PROCEDURE DA(x,y):PRIN
T#C,'DA':x:',':y:END DEFINE
600 DEFINE PROCEDURE CH:PRINT#C,'
CH':END DEFINE
```

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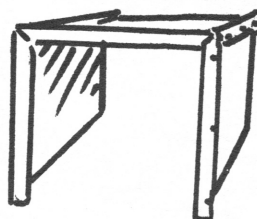
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Rod Humphreys
2006 Highview Place
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CANADA

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C.A.T.S. will run one free 1/4 page "commercial" ad per one year full (\$18) membership. Non-commercial ads may be submitted at any time. Publication dates for both types will be determined by the newsletter editor.

Advertising Rates

Full page \$25; 1/2 page \$15;
1/4 page \$10; 2" x 2 1/2" \$7

cats 10 december

3D WIRE FRAME GRAPHICS

by Tim Swanson

From Tinelinez, September, 1987
Continued from the November, 1987 issue

```
100 DIM vertex(100,3)
110 DIM edge(200,2)
190 RESTORE
200 READ xcenter, ycenter
210 READ d1, d2, rot
220 READ xx, yy, zz
230 READ vertexcount
240 FOR loop = 1 TO vertexcount
250   FOR loop2 = 1 TO 3
260     READ vertex(loop, loop2)
270   NEXT loop2
280 NEXT loop
290 READ edgecount
300 FOR loop = 1 TO edgecount
310   READ edge(loop, 1)
320   READ edge(loop, 2)
330 NEXT loop
1000 DATA 40,40,1,10,20
1010 DATA 0,0,0
1020 DATA 8,-1,-1,1,-1,1,1,1,-1,
1,1,1,1,1,1,-1,1,-1,-1,-1,-1,
-1,1,-1
1030 DATA 12,1,2,2,4,4,3,3,1,7,8
,8,5,5,6,6,7,7,1,6,3,5,4,8,2
9000 DEFine PROCedure rotz
9010   FOR loop = 1 TO vertexcount
9020     x1 = vertex(loop,1)*COS
(rot)-vertex(loop,2)*SIN(rot)
9030     y1 = vertex(loop,1)*SIN
(rot)+vertex(loop,2)*COS(rot)
9040     vertex(loop,1) = x1
9050     vertex(loop,2) = y1
9060   NEXT loop
9090 END DEFine rotz
9100 DEFine PROCedure roty
9110   FOR loop = 1 TO
vertexcount
9120     x1 = vertex(loop,1)*COS
(rot)-vertex(loop,3)*SIN(rot)
9130     z1 = vertex(loop,1)*SIN
(rot)+vertex(loop,3)*COS(rot)
9140     vertex(loop,1) = x1
9150     vertex(loop,3) = z1
9160   NEXT loop
9190 END DEFine roty
9200 DEFine PROCedure rotx
9210   FOR loop = 1 TO
vertexcount
9220     y1 = vertex(loop,2)*COS
(rot)-vertex(loop,3)*SIN(rot)
9230     z1 = vertex(loop,2)*SIN
(rot)+vertex(loop,3)*COS(rot)
9240     vertex(loop,2) = y1
9250     vertex(loop,3) = z1
```

```
9260 NEXT loop
9290 END DEFine rotx
9300 DEFine FuNction transx
(x,d1,d2)
9305 LOCAL xprime
9310 xprime = (x*d2)/d1
9315 RETURN xprime
9320 END DEFine transx
9330 DEFine FuNction transy
(y,d1,d2)
9335 LOCAL yprime
9340 yprime = (y*d2)/d1
9345 RETURN yprime
9350 END DEFine transy
9400 DEFine PROCedure
display3d
9405 CLS
9410 FOR loop = 1 TO edgecount
9420 LET point1 = edge(loop,1)
9430 LET point2 = edge(loop,2)
9435 LET x1 = vertex(point1,1)
- xx
9440 LET x1 = transx(x1,d1,d2)
9445 LET x2 = vertex(point2,1)
- xx
9450 LET x2 = transx(x2,d1,d2)
9455 LET y1 = vertex(point1,2)
- yy
9460 LET y1 = transy(y1,d1,d2)
9465 LET y2 = vertex(point2,2)
- yy
9470 LET y2 = transy(y2,d1,d2)
9480 LINE x1+xcenter,y1+ycenter
TO x2+xcenter,y2+ycenter
9490 NEXT loop
9495 END DEFine display3d
```

TAPE LIBRARY INFORMATION

The C.A.T.S. tape library is available to all full (\$18) members. Prices, per cassette, are \$3.00 by mail or \$1.00 at the meeting.

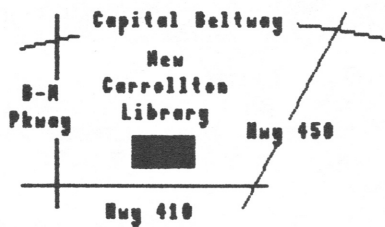
Mail order requests, and submissions for publication, should be sent to the tape librarian:

Rev. John Riley
120 N. Fairlawn Dr.
Carrollton, GA 30117

Checks or money orders should be made out to C.A.T.S.

We will continue to "compensate" contributors with one free cassette from the library.

CATS Newsletter
 P.O. Box 467
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The next meeting of CATS will be held on:
 Saturday, December 12, 1987 11:00 AM Hardware Meeting
 2:00 PM General Meeting
 At: New Carrollton Public Library
 7414 Riverdale Road (Hwy 410), New Carrollton, MD

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Newsletter

Monthly meetings are held from 11 AM to 5 PM, on the second Sat- ury of each month, at the New Carrollton Public Library.

Meetings